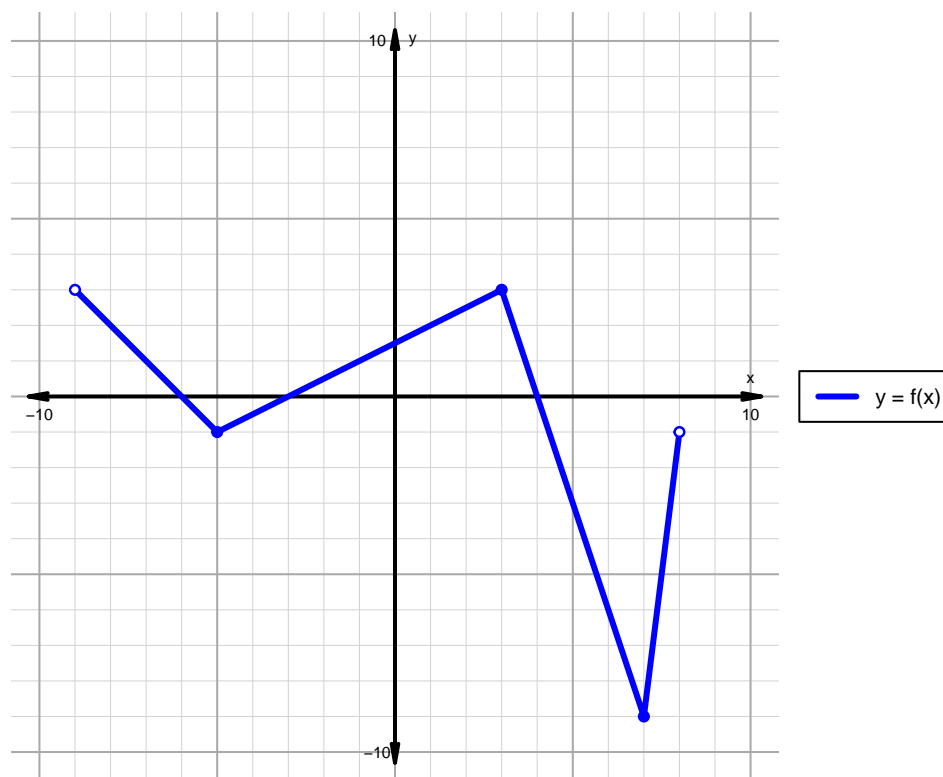


Name: _____

Date: _____

Intervals, Transformations, and Slope Solution (version 27)

1. The function f is graphed below.

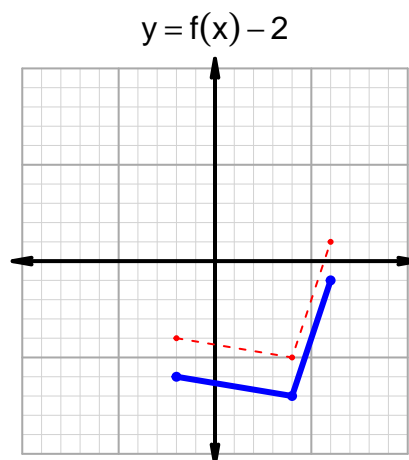
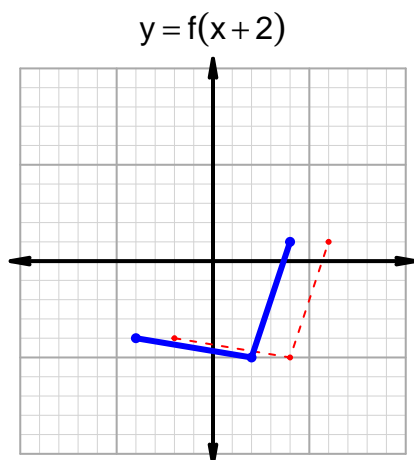
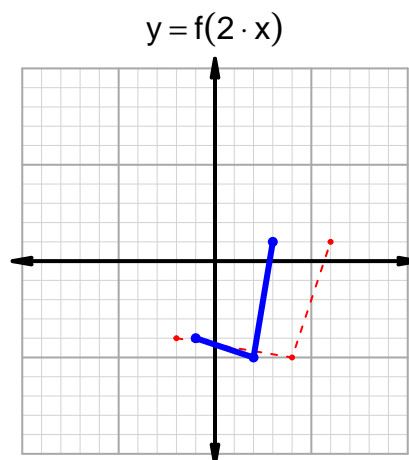
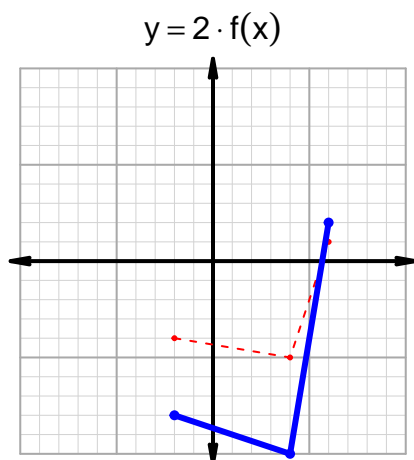


Indicate the following intervals using interval notation. Remember, you can use \cup between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-9, -6) \cup (-3, 4)$
Negative	$(-6, -3) \cup (4, 8)$
Increasing	$(-5, 3) \cup (7, 8)$
Decreasing	$(-9, -5) \cup (3, 7)$
Domain	$(-9, 8)$
Range	$(-9, 3)$

Intervals, Transformations, and Slope Solution (version 27)

2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2) - g(x_1)}{x_2 - x_1}$ to find the average rate of change between $x_1 = 34$ and $x_2 = 46$. Express your answer as a reduced fraction.

x	$g(x)$
34	85
46	71
71	34
85	46

$$\frac{f(46) - f(34)}{46 - 34} = \frac{71 - 85}{46 - 34} = \frac{-14}{12}$$

The greatest common factor of -14 and 12 is 2. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{-7}{6}$$